Agencies award $100,000 to winner of health and technology challenge

By Christine Flowers

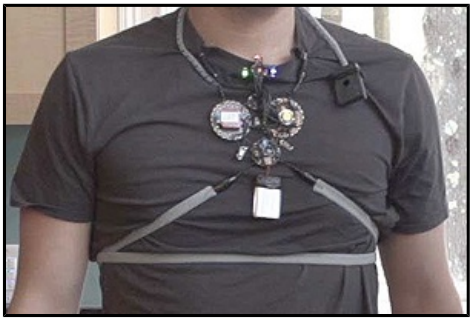
New technology that creates a personal, portable, and wearable air pollution sensor, developed under the My Air, My Health Challenge, was announced June 4 at the Health Datapalooza in Washington, D.C. The grand prize of $100,000 was awarded to Conscious Clothing.

The challenge was held by the National Institutes of Health, the Office of the National Coordinator for Health Information Technology of the U.S. Department of Health and Human Services, and the U.S. Environmental Protection Agency (EPA).

The competition kicked of June 6, 2012, with announcements by Birnbaum and Paulson (see story) at the Health Data Initiative Forum in Washington, D.C.

Health Datapalooza is intended to encourage innovation and partnerships between technology specialists and health professionals, to further biomedical research and solve health problems. Conscious Clothing's design was chosen from four finalists.

The winning team of three New England-educated scientists created the Conscious Clothing system, a wearable breathing analysis tool that calculates the amount of particulate matter that is inhaled. The system uses groove strips, stretchy, conductive strips of knitted silver material wrapped around the ribcage, to measure breath volume, and collects and transmits data in real time, via Bluetooth, to any Bluetooth-capable device.



According to the developers, the Conscious Clothing system is lightweight, flexible, and comfortable. Users require no additional training in order to fit the apparatus themselves. (Photo courtesy of Conscious Clothing)

Linked Video

Watch a video demonstration of the winning system (06:48)

Tapping the potential of personal sensors

"With people wearing these new data-collecting devices, researchers will be able to see and understand the relationships between varying levels of air pollutants and individual health responses in real time. This is a big step toward treating and, more importantly, preventing disease and illness," said NIEHS and NTP Director Linda Birnbaum, Ph.D. "This is an exciting time in research."

"This integration of technologies represents a growing area of interest for environmental and health scientists," said Glenn Paulson, Ph.D., EPA science advisor. "We're at the edge of a technology wave where anyone can use these sensors. The potential impact on personalized health and local environmental quality is tremendous."

"The finalists for this challenge demonstrate that health information technology can range from personal, wearable sensors to integrated hospital electronic health record systems," said National Coordinator for Health Information Technology (IT) Farzad Mostashari, M.D. "The benefits of health IT, whether being worn by a single person or managed throughout a large hospital, will have similar results in helping keep people healthy."

In a scene from the Conscious Clothing video, inventor David Kuller wears the technology. The only part of the system visible to an observer is the matchbook-sized air sensor above the collar. (Photo courtesy of Conscious Clothing)

NIEHS program administrator David Balshaw, Ph.D., who oversees exposure biology grants, emphasized that the winning technology is a first prototype. "As the Conscious Clothing team refines the design and capabilities of the system, it will become far less obtrusive," he said. "The essential components are very low burden and can be integrated directly into, for instance, exercise clothing with essentially no impact."

David Kuller of AUX, Gabrielle Savage Dockterman of Angel Devil Productions, and Dot Kelly of Shearwater Design, developed the Conscious Clothing system. Kuller, the lead inventor, is a 1982 graduate of the Massachusetts Institute of Technology, where he worked in the institute's media lab in its earliest days. Dockterman is a 1983 graduate of Harvard University, and Kelly, the team chemist, earned her bachelor's degree from Yale in 1980.

For more information about the winning design, visit the My Air, My Health Challenge Web page. *(http://challenge.gov/HHS/372-my-air-my-health-challenge)*

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